Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D. C. 20554

In the Matter of	)	
	)	
Revision of Part 22 and Part 90 of the Commission's Rules to Facilitate Development of Paging Systems	)	WT Docket No. 96-18
	)	PP Docket No. 93-253
	)	
	)	
Implementation of Section 309(j) of the Communications Act Competitive Bidding	)	
	)	
	)	

To: The Commission

COMMENTS OF JON D. WORD
PIONEER TELEPHONE COOPERATIVE, INC.

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March 18, 1996

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SUMMARY

In an effort to streamline the licensing procedure and provide a flexible operating environment, the Commission proposes to completely revamp the regulatory process for licensing paging channels. The Commission proposes to license paging spectrum on a geographic basis rather than the current transmitter-by transmitter basis. In addition, as part of its geographic licensing scheme, the Commission proposes to adopt new co-channel interference standards to replace the mileage separation tables applicable to 931 MHz frequencies. As shown herein, the Commission's proposals are unnecessary, inequitable, and fail to accomplish the Commission's stated goals.

The current paging landscape and the sufficiency of the current paging rules, dictate against geographic licensing of paging spectrum, particularly of 931 MHz channels. Paging spectrum is highly congested and there is little available spectrum left for licensing. Moreover, as to the 931 MHz channels, the rules now in effect limit the number of mutually exclusive applications which must be resolved. Because the current method of paging licensing avoids most situations of mutual exclusivity, auctioning should be limited to situations where mutual exclusivity cannot be resolved on a transmitter-by-transmitter basis.

Contrary to the Commission's assertions that geographic licensing will simplify the licensing procedure and afford enhanced flexibility, geographic licensing promises to be as burdensome, if not more so, than the current licensing procedures. This is

largely a factor of the proposed overlaying of geographic licensing on the existing paging allocations situation.

Finally, if adopted, the Commission's proposal to modify the methodology used to measure service and interference contours for 931 MHz channels will result in a significant reduction to incumbent licensee's contours. This will unfairly result in degraded service to incumbents and pending applicants who have relied in good faith on the current rules in designing and implementing their systems.

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To: The Commission

COMMENTS OF JON D. WORD AND PIONEER TELEPHONE COOPERATIVE, INC.

Jon D. Word ("Mr. Word") and Pioneer Telephone Cooperative, Inc. ("Pioneer"), by their attorneys and pursuant to FCC Rule Section 1.415, respectfully submit these Comments in response to the Commission Notice of Proposed Rule Making in this proceeding,[1/] which proposes a new regulatory framework that would dramatically alter the assignment process for paging station licensing. In support, the following is shown:

I. Introduction.

1. Mr. Word has been engaged in the mobile telecommunications industry for more than 12 years. He individually and through related corporate and partnership entitles, holds, controls or has substantial interests in numerous common carrier and private carrier paging licenses in the Rocky Mountain states currently serving more than 50,000 subscribers. Mr. Word is president and a substantial interest holder of Contact

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[1/] *Future Development of Paging Systems*, FCC 96-52, 10 FCC Rcd ___ (February 9, 1996) *("Notice")*.

New Mexico, L.P., a radio common carrier licensee with facilities in New Mexico, Arizona, Colorado and Texas. In addition, Mr. Word personally is the licensee of a regional 931 MHz system providing service throughout the Rocky Mountain states.

2. Pioneer is a local exchange carrier based in Kingfisher, Oklahoma. Pioneer serves 49,000 local exchange subscribers in 37 counties with 10,900 square miles of service area. Pioneer has been engaged in the mobile telecommunications industry since 1962. Pioneer was one of the first common carriers to file for new 931 MHz frequencies when they became available in the early 1980's. Pioneer holds numerous 931 MHz paging licenses in Oklahoma, serving thousands of customers with more than 11,000 square miles of coverage area in Central, Northwestern, Western, Southwestern and Eastern Oklahoma.

3. Because the *Notice* contemplates a fundamental revision of licensing for the paging services, Mr. Word and Pioneer plainly have a substantial interest in the outcome of this proceeding.

II. FCC Proposal.

4. At a time when the vast majority of paging spectrum has been licensed, the Commission, in its *Notice*, proposes a wholesale restructuring of paging licensing. In doing so, the Commission states it "seek[s] to establish a comprehensive and consistent regulatory scheme that will simplify and streamline licensing procedures and provide a flexible operating environment for all paging services."[2/] To this end, the Commission proposes to

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[2/] *Notice* at ¶ 1.

license the small amount of remaining spectrum on a geographic basis by competitive bidding.[3/] As it must, the Commission also addresses as part of its geographic licensing proposal, the serious issue of incumbent protection. In its continued desire to streamline procedures, the Commission proposes basing co-channel interference protection for all paging channels on the eight-radial contour method, thereby abolishing the existing tables by which 931 MHz licenses calculate interference and service contours.[4/] It is to these two fundamental concerns that Mr. Word and Pioneer address their comments.

III. *Geographic licensing is neither an appropriate nor viable method of licensing the remaining paging spectrum.*

A. Wholesale restructuring of licensing of the paging industry is not in the public interest.

5. The *Notice* proposes to scrap the current procedures for licensing paging systems on a transmitter-by-transmitter basis in favor of a geographic licensing scheme for all paging channels regulated under both Rule Parts 22 and 90. The right to use a paging channel not already fully licensed within a set geographic area, such as a Rand McNally Major Trading Area or Basic Trading Area, or some other geographic designation of the Commission's choosing, would be put up for auction.[5/]

6. Despite the benefits to be derived from the use of auctions, it does not follow that a wholesale restructuring of the

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[3/] *Notice* at ¶ 1.

[4/] *Notice* at ¶ 50.

[5/] *Notice* at ¶ 74.

licensing of the paging industry will serve the public interest.[6/] Mr. Word and Pioneer are concerned that the desire to auction paging licenses has become the driving force behind the proposed restructuring to geographic licensing, rather than achievement of the goal of ensuring the public's access to continued quality paging service. This is clearly contrary to Congress's intent in granting the Commission auction authority and certainly contrary to the public interest.[7/]

[6/] As Mr. Word and Pioneer made clear in their March 1, 1996, comments on the paging licensing freeze, their intent is not to oppose competitive bidding as a means to choose between competing paging applications. Congress has made that decision, and Mr. Word and Pioneer concur in Congress's judgement.

[7/] In granting the Commission auction authority, Congress set certain important limitations. The FCC may employ competitive bidding procedures only when: (1) there are mutually exclusive applications; (2) the applications are for an initial license or construction permit; and (3) the license is primarily to provide service to subscribers for compensation. In addition, the Commission must consider whether auctions would promote;

(1) development and rapid deployment of new technologies, products and services for the public's benefit, including those residing in rural areas, without administrative or judicial delays;

(2) economic opportunity and competition, and ensuring that new and innovative technologies are readily accessible to the American people by avoiding excessive concentration of licenses and by disseminating licenses among a wide variety of applicants, including small businesses, rural telephone companies, and businesses owned by members of minority groups and women;

(3) recovery for the public of a portion of the value of the public spectrum resource made available for commercial use and avoid use of unjust enrichment through methods of employment to award uses of that

(continued...)

7. As the Commission described in the *Notice*, the paging industry is mature and well established.[8/] With little regulatory oversight, the paging industry has developed into one of the faster growing communications industries. The areas in the country in which unused paging spectrum is available are limited. Most applications filed with the Commission are designed to fill in coverage for existing systems, or modify existing systems to account for growth in demand, loss of transmitter sites, or the need for in-building penetration of paging signals. Only in the more rural states, does any significant "white space" exist on paging frequencies. And this is simply because there is no existing demand for use of those channels in those areas. In most urbanized areas of the country, it is difficult to find vacant paging channels.

8. If the Commission were writing on a clean slate, geographic licensing would be entirely appropriate. But it is not. In the context of the 800 MHz SMR industry, restructuring was necessary to effectuate the establishment of wide-area cellular-

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[7/] (...continued)
resource; and

(4) efficient and intensive use of the electromagnetic spectrum.

Moreover, the Commission is specifically prohibited from basing its finding of public interest, convenience and necessity on the revenues an auction may bring.

[8/] *Notice* at ¶¶ 4-7.

like systems, for which there were no specific licensing rules.[9/] There is no similar need to disturb the established structure of the paging industry in this case, and the Commission should refrain from doing so.[10/]

9. Moreover, the auctioning of the 800 MHz spectrum is being accompanied by the ability of the wide-area license to relocate incumbent licenses and thereby effect a block of usable spectrum. By contrast no relocation of incumbents is proposed for paging channels. As a result, the existing paging allocation situation would be overlaid by the geographic licensing scheme, rather than being replaced by it as was the case with 800 MHz SMR licenses. At the very best this will result in a confusing and chaotic situation. Mr. Word and Pioneer do not believe such a jerry-built system is workable or advisable. Contrary to the Commission's objective of achieving a streamlined, flexible environment, the proposed system would be disruptive to existing licenses, as well as to the public, without promising any overriding benefit.

10. There is no dispute that paging licensees provide subscriber service to the public for compensation and that therefore paging is nominally a candidate for auctions. However,

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9/ *See Future Development of SMR Systems*, 8 FCC Rcd 3950, 3954-57 (1993); *Future Development of SMR Systems*, 9 FCC Rcd 7988, 8043 (1994).

10/ In Mr. Word's and Pioneer's view modifying paging licensing to a geographic basis would be akin to shelving the interference criteria basis for allocating new AM stations set forth in Rule § 73.23 and adopting the mileage separation/table of assignments set forth in Rule § 73.202 for FM stations. It would work on a clean slate, but it would cause hopeless confusion overlaid on the existing AM allocations situation.

paging applications generally are not for initial licenses, but seek to expand or modify existing systems. Thus, there is at least some uncertainty whether Congress envisioned that competitive bidding should be used in this circumstance where a mature industry is involved.[11/] Nevertheless, assuming that competitive bidding will be used to resolve mutually exclusive application situations, it should be done by such a means that the industry and public service is not disrupted. And certainly there is no basis to attempt to manufacture mutual exclusivity by a wholesale and unnecessary restructuring of the paging industry. Accordingly, Mr. Word and Pioneer suggest the Commission tailor its auction authority to include only those applications for which mutual exclusivity cannot be resolved on a transmitter-by-transmitter basis.

B. Disruption of 931 MHz licensing is unneeded and unjustified.

11. As unnecessarily disruptive as the geographic licensing scheme would appear to other paging providers, the disruption which would be caused to 931 MHz paging provider's is particularly inappropriate. These frequencies in particular have few unlicensed areas remaining. Auctioning the slivers of urbanized areas and those areas of sparse population remaining unlicensed is simply not a sufficient reason to disrupt, delay or foil existing licensees' plans for system expansion. Because spectrum is particularly

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11/ *See* Note 8, supra.

scarce for 931 MHz facilities, it is already in the hands of those who value it the most and who use it most efficiently.

12. Moreover, the rules now in effect limit the number of mutually exclusive 931 MHz applications which must be resolved. Accordingly, the first criterion for use of auctions established by Congress, mutual exclusivity, does not exist in a majority of cases for these channels. The current licensing rules in effect allow an applicant to suggest to the Commission a particular 931 MHz channel to be licensed, but not specify an exact frequency.[12/] The Commission, however, has the discretion to assign any available 931 MHz frequency to the applicant thereby avoiding a situation in which there are mutually exclusive applications.[13/] The Commission has used that discretion to avoid mutual exclusivity where possible, and to prefer the expansion of existing systems over the creation of new systems.[14/] Since the Commission can avoid mutual

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12/ *See* former Rule § 22.501(p)(2)(i). In its *Part 22 Rewrite Order*, the Commission revised the licensing rules for services in Part 22. *See Public Mobile Services*, 9 FCC Rcd 6513 (1994). Under the revised rules, 931 MHz applicants are required to specify the available frequency for which they are applying. New Rule § 22.529(b)(3). Applications accepted for filing are then placed on public notice which begins a 30-day window to file competing applications. New Rule § 22.541. Because specific channels are requested, the possibility of two or more applications being filed for the same frequency in the same area, is greatly increased. Originally, the revised rules were to go into effect on January 1, 1995. However, on December 30, 1994, the Commission stayed the new rules, which stay the *Notice* continues. *See Notice* at ¶¶ 12, 145.

13/ *Id.*

14/ *See Jon D. Word*, 7 FCC Rcd 3201 (1992).

exclusivity in most instances, there is no basis for conducting an auction in the majority of cases.[15/]

C. Geographic licensing does not further the Commission's goal to simplify licensing procedures.

13. The Commission supports its proposal to license paging channels on a geographic basis by contending that geographic licensing will "decrease the filing burden on 931 MHz licensees and provide additional operational flexibility."[16/] Although geographic licensing may appear to be a simpler process, in reality it will be equally, if not more, burdensome than current procedures.

14. Mr. Word and Pioneer appreciate the Commission's concern for the administrative burden of filing applications on a transmitter by transmitter basis, and recognize that a geographic licensee will be relieved of this task since "[g]eographic licensees also would be able to self-coordinate system modifications within their service areas *i.e.*, to add, subtract, move, and otherwise modify their base station facilities, without prior Commission approval or notification."[17/] However, the preliminary work involved in designing and planning a new transmitter promises to be more complicated under a geographic

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[15/] Mr. Word and Pioneer recognize situations exist in which there are an insufficient number of 931 MHz channels for assignment to each timely filed applicant. In these instances, the Commission obviously cannot avoid mutual exclusivity and the use of auctions would be appropriate.

[16/] *Notice* at ¶ 25.

[17/] *Id.*

licensing approach than under the current transmitter-by transmitter method. Currently, an applicant filing for a new station, must identify all co-channel licensees entitled to protection based on the height and power of the existing and planned transmitters. If a co-channel licensee is identified as potentially causing or receiving interference, the applicant's system must be designed so it does not cause interference to the existing licensee.

15. Geographic licensing will initially require a more detailed investigation of co-channel incumbents so the bidding applicant may properly value the available spectrum. As described above, paging spectrum is already heavily licensed by numerous licensees. Because the spectrum is so congested, a potential bidder for paging spectrum must investigate the landscape with a careful eye. This will entail identifying and evaluating all co-channel licensees within a given area. Thus, there are no administrative savings achieved at this point.

16. If the bidder becomes the geographic licensee, it will have to undertake a second investigation. Because of the massive number of incumbents, the geographic licensee will need to calculate the interference protection afforded to each co-channel incumbent in the geographic area the same as under existing rules. Moreover, it is likely that geographic licensees will in many instances, expend significant resources negotiating with incumbents regarding the purchase or relocation of incumbent facilities. Plainly then, geographic licensing does not necessarily result in

an easing of the licensing burden. Indeed, it very likely will result in added expense and administrative burden owing to the overlaying of geographic licensing on the existing paging allocation situation.

D. Geographic licensing will not result in significant operational flexibility for either incumbents or geographic licensees.

17. The Commission also supposes that geographic licensing will afford enhanced operational flexibility to paging licensees. However, because of the maturity of the paging industry, geographic licensing does not promise to enhance licensee flexibility to any where near what might be expected in a less developed industry. Both geographic licensees and incumbents will be limited. Geographic licensees' system plans will be curtailed by the number of existing co-channel licensees in their markets. Incumbents' systems will be curtailed because they will not be permitted to expand beyond their interference contours without the consent of geographic licensees. Mr. Word and Pioneer just do not see the likelihood of substantial increased licensee flexibility, and certainly not a significant degree of improvement to justify junking the paging industry's existing licensing framework.

18. Recognizing incumbents' need for flexibility, the Commission asks whether circumstances exist for allowing an incumbent to expand without consent from the geographic licensee.[18/] Mr. Word and Pioneer find it difficult to imagine a circumstance that would be fair to both the geographic licensee and

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[18/] *Notice* at ¶ 39.

the incumbent. On the one hand, a geographic licensee will have planed its system, and paid a significant amount of money, based on the landscape existing at the time of the auction. On the other hand, there will be instances in which incumbents will be required to modify their systems to continue to provide service. For example, if an incumbent loses a transmitter site and the only alternative site is a mile or two away, it would otherwise be at the mercy of the geographic licensee, likely to be its competitor. Geographic licensing cannot adequately accommodate both the incumbents and the geographic licensees. In Mr. Word's and Pioneer's view, if the Commission adopts geographic licensing, shortly after auctions are completed, geographic licensees will inundate the Commission with complaints that they cannot live with incumbent paging licensees, and will seek authority to relocate those licensees, or, ask the Commission to make those incumbent licenses, after some period of time, secondary. The history of 2 GHz PCS relocation surely indicates that the Commission will be sympathetic to those concerns.[19/]

IV. The Commission's proposal for determining 931 MHz co-channel interference protection results in a significant reduction of protected geographic area that is inequitable to incumbents.

19. In conjunction with proposing to switch to a geographic licensing scheme, the Commission proposes to alter the method of insuring interference protection to 931 MHz licenses. The Commission suggests the current method, which protects a fixed service area, be replaced with mathematical formulae that generate

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[19/] *See generally* record in WT Docket 95-157.

contours based on eight cardinal radials. The Commission tentatively concludes that the eight-radial contour method "may be preferable to a fixed radius method, because it will more reasonably predict potential interference to incumbents and provide geographic licensees with greater flexibility in placing their facilities."[20/] However, using the proposed method results in a significant reduction to existing interference and service contours and is thus unfair to incumbent paging licensees.

20. The service and interference contours for 931 MHz paging transmitters are currently determined from FCC Rule §§ 22.537(f)&(e) at Tables E-1 and E-2. The contour is the product of a function which incorporates the Height Above Average Terrain ("HAAT") of the transmitting antenna and the Effective Radiated Power ("ERP") of the transmitter.

21. The present, simple method assigns a circle for both service and interference contours based on the HAAT and ERP. It does not take into account terrain variation or antenna gains. On the other hand, the proposed service and interfering formulae take into account variations in the terrain and transmitter ERP along the eight cardinal radials.[21/]

22. Although both methods are simple to implement, the proposed FCC formulae, if adopted, would reduce the size of both service and interference contours of existing and proposed 931 MHz paging stations. The present method generally provides a paging

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[20/] *Id.*

[21/] *Notice* at ¶ 50.

station with a 32.2 kM mile radius service contour and a 80.5 kM mile radius interference contour which usually results in a 112.7 kM mile separation between co-channel licensees.[22/] Comparing Tables E-1 and E-2 of FCC Rule §§ 22.537(e)&(f), set forth in attached Exhibit 1, with the attached Exhibits 2&3 demonstrates that the service and interference contours generally are reduced for the same HAAT and ERP if the FCC formulae are used.

23. The Commission correctly notes that both under the current and proposed rules, a paging station operating at 1000 watts ERP and 305 meters HAAT would have a service contour of 32.2 kM and an interference contour of 80.5 kM. However, the same station operating with HAAT of 241 meters, and 1000 watts ERP, would have one set of service and interfering contours under the current rules (32.2 kM, and 80.5 kM) but would have a much smaller set of service and interfering contours if the proposed formulae are used (28 kM and 73.6 kM, respectively). *See* Exhibit 3. This amounts to a reduction of approximately 25 percent in the service contour area and 16 percent in the interference contour area for the transmitter operating at the lower height.

24. The significance of such a reduction in contours is serious. First, licensees will have a smaller protected geographic area in which to provide service to their customers. This will risk degradation of service because of increased risk of interference from co-channel licensees. In addition, the effect of reducing interference protection is to give the proposed geographic

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22/ *See* FCC Rule Sections 22.537(e) and (f).

licensees new "vacant" areas (*i.e.*, gaps between co-channel stations) into which they may try to shoe-horn new stations. This will risk discontinuity in service for incumbent licensees, and will threaten the viability of pending proposals, designed based upon the existing rules.

25. Moreover, if the Commission adopts the proposed modified contour rules, licensees and applicants will be forced to devote substantial additional resources in re-examining their system contours. Current applicants and existing paging licensees have carefully planned and developed their systems based on the existing rules. These applicants filed with a good faith belief that their applications would be processed under the rules then in effect. Licensees had the legitimate expectation the Commission would not change their authorized service and interference contours. The Commission must recognize the burden on an applicant or incumbent licensee to re-define its service and interfering contours.

26. Although the eight-radial method may be marginally more predictable, the results are inequitable to both incumbents and applicants who have operated under the existing rules. Mr. Word and Pioneer urge the Commission to abandon its proposal to employ the "eight-radial contour method" for 931 MHz licensing, and retain the existing service and interference tables.

V. Conclusion.

27. The Commission's proposed changes set forth in the *Notice* would effect a fundamental restructuring of the licensing of the paging industry. The Commission states that its interest in

adopting the new rules is to reduce administrative burdens, provide operational flexibility, and establish a simpler regulatory scheme. For the reasons described above, the Commission's commendable goals will not be reached under the proposed rules. Instead, the proposals will create unnecessary and inequitable results, and will not significantly reduce the burdens associated with paging licensing. Although the current regulatory framework can be improved, it need not be entirely reconfigured to achieve the Commission's laudatory objectives.

Respectfully submitted,

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Exhibit 1

Table E-1. - 931 MHz Paging Service Radii

Service radius km (miles)	Effective radiated power (Watts)					
Antenna HAAT meters (feet)	**0-125**	**126-250**	**251-500**	**501-1000**	**1001-1860**	**1861-3500**
0-177 (0-581)	32.2 (20)	32.2 (20)	32.2 (20)	32.2 (20)	32.2 (20)	32.2 (20)
178-305 (582-1001)	32.2 (20)	32.2 (20)	32.2 (20)	32.2 (20)	37.0 (23)	41.8 (26)
306-427 (1002-1401)	32.2 (20)	32.2 (20)	37.0 (23)	41.8 (26)	56.3 (35)	56.3 (35)
428-610 (1402-2001)	32.2 (20)	37.0 (23)	41.8 (26)	56.3 (35)	56.3 (35)	56.3 (35)
611-861 (2002-2825)	37.0 (23)	41.8 (26)	41.8 (26)	56.3 (35)	83.7 (52)	83.7 (52)
62-1219 (2826-3999)	41.8 (26)	56.3 (35)	56.3 (35)	83.7 (52)	83.7 (52)	83.7 (52)
1220+ (4000+)	56.3 (35)	56.3 (35)	83.7 (52)	83.7 (52)	83.7 (52)	83.7 (52)

Table E-2. - 931 MHz Paging Interfering Radii

Interfering radius km (miles)	Effective radiated power (Watts)					
Antenna HAAT meters (feet)	**0-125**	**126-250**	**251-500**	**501-1000**	**1001-1860**	**1861-3500**
0-177 (0-581)	80.5 (50)	80.5 (50)	80.5 (50)	80.5 (50)	80.5 (50)	80.5 (50)
178-305 (582-1001)	80.5 (50)	80.5 (50)	80.5 (50)	80.5 (50)	88.5 (55)	96.6 (60)
306-427 (1002-1401)	80.5 (50)	80.5 (50)	88.5 (55)	96.6 (60)	130.4 (81)	130.4 (81)
428-610 (1402-2001)	80.5 (50)	88.5 (55)	96.6 (60)	130.4 (81)	130.4 (81)	130.4 (81)
611-861 (2002-2825)	88.5 (55)	96.6 (60)	96.6 (60)	130.4 (81)	191.5 (119)	191.5 (119)
862-1219 (2826-3999)	96.6 (60)	130.4 (81)	130.4 (81)	191.5 (119)	191.5 (119)	191.5 (119)
1220+ (4000+)	130.4 (81)	130.4 (81)	191.5 (119)	191.5 (119)	191.5 (119)	191.5 (119)

Service and Interfering Radii for 931 MHz based on FCC proposed Formulas using maximum values of Tables E-1 and E-2 of section 537(e) and (f)

Service Contour D(km)=0.108*H(m)^0.61*P(w)^0.32								
	ERP(W)	125	250	500	1000	1860	3500	
HAAT (m)								
177		**11.9**	**14.9**	**18.6**	**23.2**	**28.2**	34.6	km
305		**16.6**	**20.7**	**25.9**	32.3	39.4	48.2	km
427		**20.4**	**25.4**	**31.7**	**39.6**	**48.3**	59.2	km
610		**25.3**	**31.6**	**39.5**	**49.3**	60.1	73.5	km
861		**31.2**	**39.0**	48.7	60.8	**74.1**	90.8	km
1219		**38.6**	**48.2**	60.2	**75.1**	91.6	112.2	km
Interfering Contour D(km)=3.033*H(m)^0.38*P(w)^0.16								
177		**46.9**	**52.5**	**58.6**	**65.5**	**72.3**	**80.0**	km
305		**57.7**	**64.5**	**72.1**	**80.5**	88.9	98.4	km
427		**65.6**	**73.3**	**81.9**	**91.5**	**101.1**	**111.8**	km
610		**75.1**	**83.9**	**93.8**	**104.8**	**115.7**	**128.0**	km
861		**85.6**	**95.7**	106.9	**119.4**	**131.9**	**146.0**	km
1219		97.7	**109.2**	122.0	**136.3**	**150.5**	**166.6**	km

Bold faced numbers demonstrates where there is a reduction in service and interfering contours.

Service and Interfering Radii for 931 MHz based on FCC proposed Formulas using average values of Tables E-1 and E-2 of section 537(e)and (f)

Service Contour D(km) = 0.108*H(m)^0.61*P(w)^0.32								
	ERP(W)	125	250	500	1000	1860	3500	
HAAT (m)								
90		**7.9**	**9.8**	**12.3**	**15.3**	**18.7**	**22.9**	km
241		**14.4**	**17.9**	**22.4**	**28.0**	**34.1**	41.7	km
367		**18.6**	**23.2**	**28.9**	**36.1**	**44.1**	**53.9**	km
519		**22.9**	**28.6**	**35.8**	**44.6**	**54.4**	66.6	km
736		**28.4**	**35.4**	44.2	**55.2**	**67.4**	82.5	km
1040		**35.1**	**43.8**	**54.6**	**68.2**	**83.2**	101.8	km
Interfering Contour D(km) = 3.033*H(m)^0.38*P(w)^0.16								
90		**36.3**	**40.6**	**45.3**	**50.6**	**55.9**	**61.9**	km
241		**52.8**	**59.0**	**65.9**	**73.6**	**81.3**	**90.0**	km
367		**61.9**	**69.2**	**77.3**	**86.4**	**95.4**	**105.6**	km
519		**70.7**	**78.9**	**88.2**	**98.5**	**108.8**	**120.4**	km
736		**80.7**	**90.1**	100.7	**112.5**	**124.3**	**137.5**	km
1040		**92.0**	**102.8**	**114.9**	**128.3**	**141.7**	**156.8**	km

Bold faced numbers demonstrates where there is a reduction in service and interfering contours.

CERTIFICATE OF SERVICE

I, Sloane M. Stupica, an employee in the law offices of Lukas, McGowan, Nace & Gutierrez, Chartered, do hereby certify that I have on this 18th day of March, 1996, sent by first class United States mail, copies of the foregoing COMMENTS to the following:

Chairman Reed E. Hundt
Federal Communications Commission
1919 M Street, N.W. Room 814
Washington, DC 20054

Commissioner James H. Quello
Federal Communications Commission
1919 M Street, N.W. Room 802
Washington, DC 20054

Commissioner Andrew C. Barrett
Federal Communications Commission
1919 M Street, N.W. Room 826
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Commissioner Rachelle B. Chong
Federal Communications Commission
1919 M Street, N.W. Room 844
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Commissioner Susan Ness
Federal Communications Commission
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Rosalind K. Allen, Associate Bureau Chief
Wireless Telecommunications Bureau
Federal Communications Commission
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David Furth, Acting Chief
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Michelle Farquhar, Chief
Wireless Telecommunications Bureau
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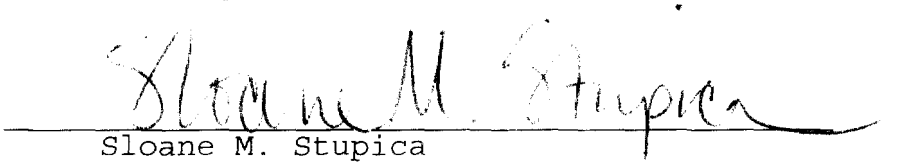

Sloane M. Stupica

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